

## IN THE CLAIMS

1. An electrified cylindrical lock, comprising:

a chassis having locked and unlocked states; the chassis having a latch  
5 member having lock and unlock positions for determining said locked and unlocked states,  
respectively, and

a solenoid including a coil coupled to said latch member, the solenoid  
reversible for an active push by energizing the coil or an active pull by energizing the coil  
for controlling said lock and unlock positions without end-for-end reversing the coil with  
10 respect to the chassis.

2. The lock of claim 1, further comprising:

first and second trim assemblies fixed to a door; and wherein:

the chassis locks and unlocks the first and second trim assemblies with said  
15 locked and unlocked states, respectively, for locking and unlocking said door to a wall.

3. The lock of claim 1, wherein:

the coil includes a rear coil end and a front coil end, said front coil end  
closer to said latch member and said rear coil end farther from said latch member; and  
20 further comprising:

an armature slug proximate to said rear coil end for said active push and  
proximate to said front coil end for said active pull, wherein energizing the coil draws the  
slug toward said front coil end for pushing said latch member away from the coil for said  
active push and draws the slug toward said rear coil end for pulling said latch member  
25 toward the coil for said active pull.

4. The lock of claim 3, wherein:

the slug includes an inner end facing toward said front coil end for said  
active push and facing toward said rear coil end for said active pull.

5. The lock of claim 3, wherein:

the slug is end-for-end reversed with respect to said latch member for switching between said active push and said active pull.

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6. The lock of claim 3, wherein:

the coil includes wires emerging at a wire entry for carrying electrical current for energizing the coil, said wire entry substantially unmoved with respect to said latch member when the lock is switched between said active push and said active pull.

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7. The lock of claim 3, further comprising:

an armature shaft extending through said front coil end for connecting the slug to said latch member.

15 8. The lock of claim 7, wherein:

the slug is disposed at a first location on the shaft for said active push and a second location on the shaft for said active pull.

9. The lock of claim 7, further comprising:

20 a seat proximate to said front coil end for limiting travel of the slug toward said front coil end for said active push and proximate to said rear coil end for limiting travel of the slug toward said rear coil end for said active pull, the seat having a through hole for passing the shaft.

25 10. The lock of claim 9, wherein:

the seat is end-for-end reversed with respect to said latch member for switching between said active push and said active pull.

11. The lock of claim 9, wherein:

the seat includes a first cylindrical section having a seat end proximal to the slug and a second cylindrical section distal from the slug, said first section having a diameter less than an inside diameter of the coil, the second section having a diameter about matching an outside diameter of the coil, said seat end including a cavity facing said slug.

12. The lock of claim 11, further comprising:

a case for housing the coil and the seat, the case having a rear case end and a front case end; and

a retainer engaged to the case at said front case end for retaining the coil and the seat within the case.

13. The lock of claim 12, wherein:

the retainer includes a spring section for engaging the case and a flange attached to the spring section for retaining the slug within the solenoid when the solenoid is assembled for said active pull.

14. The lock of claim 12, wherein:

the second section of the seat is disposed between said rear coil end and said rear case end for said active push and between said front coil end and the retainer for said active pull.

15. The lock of claim 12, further comprising:

a spacer ring disposed between said rear case end and said rear coil end for said active push and between said rear case end and said second section for said active pull, the spacer ring having a through hole for passing the slug for said active push.

16. The lock of claim 12, further comprising:

a spring between the slug and the seat for urging the slug away from said front coil end for said active push and away from said rear coil end for said active pull.